

Daily GLOWBUGS

Digest: V1 #6

via AB4EL Web Digests @ SunSITE

Purpose: building and operating vacuum tube-based QRP rigs

[AB4EL Ham Radio Homepage @ SunSITE](#)

%%%% GlowBugs %%%%% GlowBugs %%%%% GlowBugs %%%%% GlowBugs %%%%%

Subject: glowbugs V1 #6

glowbugs

Sunday, April 13 1997

Volume 01 : Number 006

Date: Sat, 12 Apr 1997 16:32:44 -0400 (EDT)

From: kim herron <kherron@voyager.net>

Subject: Rebuilding Electrolytic caps

Hi Gang,

Over the last several weeks I've been asked for The address of Frontier Electronics. They are the people who are rebuilding Electrolytic and oil filled capacitors. So I thought I'd post the info to the list so that everyone can get it.

It is:

Frontier Electronics

P.O. Box 218

Lehr, ND (don't have the zip)

Ph. 701-378-2551

Fax 701-378-2341

Everett Hoard is the owner and is also in the business of testing HV caps for leakage (broadcasters take note). These would be the large voltage caps found in your garden variety multi-KW Broadcast xmtr. He also has available a complete line of NEW caps from little mica caps to large value HV caps for the power supply in your audio amp or your boatanchor transmitter. He tells me that electrolytics over 600VDC are not a problem.

So, there. Now you all know what I know on the company and the man behind it. If you need caps rebuilt, or just want new ones, give him a call and get what you need.

Kim Herron

kherron@vixa.voyager.net (return address)

Date: Sat, 12 Apr 1997 17:42:07 -0400 (EDT)

From: EWoodman@aol.com
Subject: New Baby Regen

Just thought I'd pass on this "birth" announcement. At about 2100Z today a new regen came into the world howling and screaming and (I think) acting quite normal thanks to help from "Boatanchor" Bob and several others. I've brought several transmitters into the world but this is the first regen receiver. It's just a single stage using a 6SN7 loosely based on a couple of drawings in an old handbook. Mostly just for testing and fooling around with while I await some plans being sent by a kind member of our group. These things are pretty amazing! I can hear most of what I can hear on my Icom this afternoon on 80 meters. A bit faint sometimes but copyable.

A question for you gents who run regens.....how much antenna coupling do you use? I've just got one turn (actually less than that. It comes off the antenna connector, around the back of the coil and back to the connector. More like about 2/3 of a turn.)

Hope to hear some of you folks on this thing tonight.

73 Eric KALYRV

Date: Sat, 12 Apr 1997 16:51:18 -0500 (CDT)
From: mjsilva@ix.netcom.com (michael silva)
Subject: Re: Core saturation musings

Brian wrote:

>
>Er Mike - how is running DC through the filament winding supposed to
>affect the other HV windings? What am I overlooking here?
>
>On 11 Apr 97 at 14:43, michael silva spoke about Core saturation
>musings and said:

>>...So, for the
>> sake of discussion, what if we *do* use a power transformer in
>> either of these applications, and balance out the DC core component
>> by running some DC thru an unused filament winding?...

The problem is that the DC flowing in a choke or modulation transformer (or any iron-cored thingie) sets up a certain flux in the core, and the core is only good for a certain total flux, so the DC component reduces the total AC flux "load" possible for the core. Running the right amount of DC in the "opposite" direction in another winding will cancel the HV DC flux, allowing the core to sustain more AC flux before exceeding it's ratings. It's the reason that a P-P audio transformer for a given power output is smaller than a single-ended transformer for the same output (the P-P primary has cancelling DC components).

At least, that's my theory/question.

73,
Mike, KK6GM

Date: Sat, 12 Apr 1997 20:21:00 -0400 (EDT)
From: EWoodman@aol.com
Subject: Old Headset Cords

I have two sets of old high impedance headsets, both made by Trimm. One set appears to be a slightly "cheaper" version than the other. The other set is in really nice shape. The bodies of the earphones are metal instead of plastic and they have a screw lock type of arrangement to adjust the fit. But on to the question. The cords are cloth covered and the actual conductors are made of that sort of soft woven stranded wire. Don't really know how to describe it but I'm sure most of you know what I'm referring to. What is the right way to make connections to that foolish stuff? The good set of phones have no connectors on them. The other set has a set of lugs but it's hard to tell how they are attached. Almost looks like maybe it's crimped. I've run into this problem before on some old microphones and have never really gotten a good connection. Is there a trick to it?

73 Eric KALYRV

Date: Sat, 12 Apr 1997 19:27:58 -0500
From: "Robert M. Bratcher Jr." <bratcher@worldnet.att.net>
Subject: Best way for AM KW?

Can AM be amplified? If so then whats the best way to get 1KW out from 100W input?
I'd love to plate modulate a pair of 813's but the modulation transformer would be expensive and hard to find! Just how do I do get a full KW on 75 & 40?

Robert M. Bratcher Jr.
E-mail to:
bratcher@worldnet.att.net
Record collector, 8mm, super 8, 16 and 35mm Film collector.
I like old radio's too.
Collins, Hallicrafters, National & Hammurand are my Favorites!

Date: Sat, 12 Apr 1997 23:28:27 -0400
From: "Lloyd A. Scott, Jr." <wpull1130@concentric.net>
Subject: Re: Old Headset Cords

EWoodman@aol.com wrote:

>
> I have two sets of old high impedance headsets, both made by Trimm. One set
> appears to be a slightly "cheaper" version than the other. The other set is
> in really nice shape. The bodies of the earphones are metal instead of
> plastic and they have a screw lock type of arrangement to adjust the fit. But
> on to the question. The cords are cloth covered and the actual conductors are
> made of that sort of soft woven stranded wire. Don't really know how to
> describe it but I'm sure most of you know what I'm referring to. What is the
> right way to make connections to that foolish stuff? The good set of phones
> have no connectors on them. The other set has a set of lugs but it's hard to
> tell how they are attached. Almost looks like maybe it's crimped. I've run
> into this problem before on some old microphones and have never really gotten

> a good connection. Is there a trick to it?
>
> 73 Eric KALYRV
Greetings Eric: I think you have tenssel wire, sorta like heavy strips
of tin foil. It requires a crimp connector with teeth. The stuff is
small and fragile.
73's
Lloyd

Date: Sun, 13 Apr 1997 04:43:00 +0000
From: Sandy W5TVW <ebjr@worldnet.att.net>
Subject: Re: Old Headset Cords

At 03:28 AM 4/13/97 +0000, you wrote:

>EWoodman@aol.com wrote:

>>

>> I have two sets of old high impedance headsets, both made by Trimm. One set
>> appears to be a slightly "cheaper" version than the other. The other set is
>> in really nice shape. The bodies of the earphones are metal instead of
>> plastic and they have a screw lock type of arrangement to adjust the fit. But
>> on to the question. The cords are cloth covered and the actual conductors are
>> made of that sort of soft woven stranded wire. Don't really know how to
>> describe it but I'm sure most of you know what I'm referring to. What is the
>> right way to make connections to that foolish stuff? The good set of phones
>> have no connectors on them. The other set has a set of lugs but it's hard to
>> tell how they are attached. Almost looks like maybe it's crimped. I've run
>> into this problem before on some old microphones and have never really gotten
>> a good connection. Is there a trick to it?

>>

>> 73 Eric KALYRV

>Greetings Eric: I think you have tenssel wire, sorta like heavy strips
>of tin foil. It requires a crimp connector with teeth. The stuff is
>small and fragile.
>73's
>Lloyd

One method I've seen used is to take the "tinsel" ends and wrap them
with a layer of closewound 2 or 5 amp tinned fuse wire (this stuff is about
38-40 guage-very fine)

Then you can tin it and the soldered fuse wire wrap is fairly substantial
and can be then soldered into the phone tips or a small lug. I doubt you
will be able to find this wire unless you find some at an electrical supply
house that deals in British or European electrical parts. This is tinned
copper fuse wire NOT a lead alloy wire!

Trimm used some special lugs that had little points that pierced the braided
insulation

and were crimped on, kinda like a molex plug pin. In fact, that would be my
second choice: Molex plug pins. The Bell Telephone company used some
similar type lugs eons ago. I doubt if you'll find any in their goody pile
nowadays. They faded away
when the "dial office" came into being and manual switchboards went out of
style!

73,

E. V. Sandy Blaize, W5TVW

"Boat Anchors collected, restored, repaired, traded and used!"

417 Ridgewood Drive,
Metairie, LA., 70001
ebjr@worldnet.att.net
Looking for: 860 tubes, WL-460 tubes
Butternut HF2V antenna, G-R test gear.....*

Date: Sat, 12 Apr 1997 23:42:18 -0500 (EST)
From: "Roberta J. Barmore" <rbarmore@indy.net>
Subject: Re: Old Headset Cords

Hi, Eric and list!

Old-time headphone wire is "tinsel cord." You *can* solder to it, with great care and luck, by taking one strand from stranded wire and wrapping it around the bare end of the stuff--but it's an art. (The preferred method for putting tip plugs on 'phones is to tin 'em up as above, then tin the plugs and solder it all together).

The phone company, back in The Old Days, used yars and yards of this stuff, for handset and phone-to-wall cord, and the way they hooked to it was to use lugs with a couple of little "teeth" in the crimped part, that bit into the tinsel.

PhoneCo, an outfit that sells old phones & repair parts, will sell you proper lugs, which can be used on the big old phone plugs with screw terminals. That kind of plug has got grooves in the terminals that will hold tip plugs, too, if you happen to have some cans with that sort of terminals.

FWIW, PhoneCo also has brown cloth-covered tinsel cord, in 2 through 8-conductor versions. It's not good for heavy current, so don't look to use it for power-supply cables, but it's good for headphones & carbon mics.

73,
--Bobbi

Date: Sun, 13 Apr 1997 00:49:37 -0500 (EST)
From: "Roberta J. Barmore" <rbarmore@indy.net>
Subject: Introduction

Hi!

Some (most?) of you already know me, so I shall try to keep this short.

Roberta J. (Bobbi) Barmore, b. 1958, Advanced-class ham ticket (KB9GKX) with 20wpm credit (and about out of time on it!). Typical middle-aged Hoosier housewife--except I married late and have worked in broadcasting, mostly engineering, since 1975.

Grew up around people who built things--my father worked for RCA (management) but he and his many older brothers ran a small garage and all of 'em have a lot of mechanical aptitude, while mother's family (4 older sisters, one brother) were teachers, hands-on working artists, etc. So when I started showing an interest in radio around age 12, nobody told me not to!

Started out with Alfred Morgan's books, and found tubes easier to come

by and work with (early 1970s), so that led to being interested in the history of radio (and fodder for a few Science Fair projects!). Collected BC sets for many years, but realized after moving for the 4th time in as many years that all I was doing with 'em was fixing 'em and dusting them off. About the same time, I was getting frustrated with solid-state ham gear but wanting to get back into ham radio, so I got into boatanchoring (slowly) and here I am.

I do not have much formal education--one whole semester of an EET program before I ran out of money--but I was lucky to work for very sharp techs who were happy to share what they knew, and some of it stuck.

Presently "Chief Operator/Senior Technician -- RF" for WTHR-TV and WALV-LP in Indianapolis, IN, and have been with the stations for nearly ten years--quite a relief after being in the radio side where jobs turn over frequently. Big title doesn't mean much, I'm an hourly tech (with OT pay, hooray!) and get to look over the logs and make the ops correct 'em when they mess up.

I'm pretty tall, addicted to the printed word, dreadfully nearsighted (contact lenses are a wonderful thing), mildly dislexic (like you hadn't noticed) and thanks to a few bouts with rheumatic fever, tend to get hit hard by colds & such. Which is why I'm awake right now--been dog tired from a cold all day but my temperature is up and down and I can't sleep. Blue eyes, dark-blond hair in a Bettie Page cut (this means bangs in front and long in back--sheer self-defense, the stuff won't stay put in anything fancier), and you'll know me at hamfests 'cos I usually wear high linesman's boots (or even worse ones)--never can tell what you might step in, rummaging through the flea market!

While I work with some fancy stuff and try to stay current, at home I'm most fond of prewar or early postwar gear, and that era's technology in general--I use old dial telephones, fountain pens, make drawings by hand and not computer, and have even been known to dig out the 1920s Corona "flipover" portable mill for business correspondence. :) (For that matter, at home I refuse to upgrade my used '286 machine and monochrome monitor, as the color & GUI stuff just annoys me).

That about covers it. Personal stuff, Dear Dean and I have been together for seven years now, and have no children nor plans for any. We do have three cats.

73,
--Bobbi

Date: Sun, 13 Apr 1997 02:00:10 -0500
From: "Robert M. Bratcher Jr." <bratcher@worldnet.att.net>
Subject: Re: Best way for AM KW?

At 04:40 AM 4/13/97 +0000, you wrote:
>At 07:27 PM 4/12/97 -0500, you wrote:
>>Can AM be amplified? If so then whats the best way to get 1KW out from 100W
>>input?
>>I'd love to plate modulate a pair of 813's but the modulation transformer
>>would be expensive and hard to find! Just how do I do get a full KW on 75
& 40?
>>
>>Robert M. Bratcher Jr.
>>E-mail to:
>>bratcher@worldnet.att.net
>>Record collector, 8mm, super 8, 16 and 35mm Film collector.

>>I like old radio's too.
>>Collins, Hallicrafters, National & Hammurland are my Favorites!
>
>Hi, Robert:
>Easiest way is to buy an old, decrepit 1 KW AM broadcast transmitter for the
>cabinet, the iron, the tubes, and the RF components. Then rebuild it the
>way you want. Ought to be able to find an old Gates BCl-J, or something
>like that.
>Only problem is that as I understand the rules nowadays, you can't run 1 KW
>plate modulated... I b'lieve we're stuck with "1500 watts pep" even with
>full-carrier AM. Is this not right?
>
>73
>John WA6QPL@amsat.org

Yep your right. I think 1500w pep is something like 400 watts or so in AM.
I'd rather follow the old rules & run that full KW. I've heard some loud AM
on 75 so I'm sure others are doing it the old way. If I'm wrong and all
AM'ers follow the new power rules then oh well...

Tnx for private reply. Took the liberty of posting my answer to the group
for input.

Robert M. Bratcher Jr.
E-mail to:
bratcher@worldnet.att.net
Record collector, 8mm, super 8, 16 and 35mm Film collector.
I like old radio's too.
Collins, Hallicrafters, National & Hammurland are my Favorites!

Date: Sun, 13 Apr 1997 15:29:30 +1000
From: Murray Kelly <mkelly@faraday.dialix.com.au>
Subject: Re: QY3-65 valve ?? info wanted

Didn't see a reply to this.

QY3-65 VHF power tetrode. Base B7A. Also used for AF
amplifier or modulator.

AF amp Class AB		Telephony		CW/FM	
		Anode & screen		Class 'C'	
		Grid Modn. 'C'			
f Mc/s	-	50	220	50	220
p out W	270	230	75	280	110
f max Mc/s	-	250		250	
V a max. kV	3.0	2.5		3.0	
p a max. W	65	45		65	

Directly heated cathode 6.0V/3.5A

Pages of stuff follow! The Mullard Book.
BEN NOCK wrote:

>
> I have just picked up a commercial bit
> of kit
> It uses a pair of QY3-65 valves,
> Any idea of the power rating at vhf of these valves ?

> Ben G4BXD.

--

* Murray Kelly vk4aok mkelly@faraday.dialix.com.au *
* 29 Molonga Ter. / Graceville/ QLD. 4075/ Australia *
* ph/fax Intl+ 61 7 3379 3307 *

Date: Sun, 13 Apr 1997 17:20:53 +1000
From: Murray Kelly <mkelly@faraday.dialix.com.au>
Subject: Re: QY3-65 valve ?? info wanted

Didn't see a reply to this.

QY3-65 VHF power tetrode. Base B7A. Also used for AF
amplifier or modulator.

AF amp Class AB		Telephony Anode & screen Grid Modn. 'C'	CW/FM Class 'C'
f Mc/s	-	50 220	50 220
p out W	270	230 75	280 110
f max Mc/s	-	250	250
V a max. kV	3.0	2.5	3.0
p a max. W	65	45	65

Directly heated cathode 6.0V/3.5A

Pages of stuff follow! The Mullard Book.
BEN NOCK wrote:

>
> I have just picked up a commercial bit
> of kit
> It uses a pair of QY3-65 valves,
> Any idea of the power rating at vhf of these valves ?
> Ben G4BXD.

* Murray Kelly vk4aok mkelly@faraday.dialix.com.au *
* 29 Molonga Ter. / Graceville/ QLD. 4075/ Australia *
* ph/fax Intl+ 61 7 3379 3307 *

Date: Sun, 13 Apr 1997 07:49:11 +0000
From: "Brian Carling (Radio G3XLQ / AF4K)" <bry@mnsinc.com>
Subject: Re: Best way for AM KW?

For one thing you are only allowed 750W out on AM.

Then also, if you want 750W out, you need an amplifier that is
capable of delivering considerably more than that, and throttle back
the carrier level to the appropriate amount.

I used to drive a KW amp with AM, and generally I ran it at about 200 watts out. Otherwise your modulation might clip and distort.

On 12 Apr 97 at 19:27, Robert M. Bratcher Jr. spoke about Best way for AM KW? and said:

> Can AM be amplified? If so then whats the best way to get 1KW out
> from 100W input? I'd love to plate modulate a pair of 813's but the
> modulation transformer would be expensive and hard to find! Just how
> do I do get a full KW on 75 & 40?
>
> Robert M. Bratcher Jr.

Fair Radio might have a suitable mod xfmr, or you could get one from one of their big old military TXes.

Bry

```
*****  
*** 73 from Radio AF4K / G3XLQ in Gaithersburg, MD USA *  
** E-mail to: bry@mnsinc.com *  
*** See the great ham radio resources at: *  
** http://www.mnsinc.com/bry/ *  
*****
```

Date: Sun, 13 Apr 1997 09:38:16 -0400 (EDT)

From: MAB@delphi.com

Subject: Re: Old Headset Cords

Bobbi, could you post an address/phone/email for PhoneCo? Tnx & 73, Mike

```
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%  
%                                                                 %  
% Michael A. Burke, Synetics Consultants                        %  
% PO Box 439, 11 Scenic Dr, Westminster, MA 01473             %  
% 508-874-0908 mab@delphi.com                                   %  
%                                                                 %  
% Good judgment comes from experience, and                     %  
% experience comes from bad judgment.                          %  
%                                                                 %  
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
```

Date: Sun, 13 Apr 1997 10:45:10 +0000

From: "Brian Carling (Radio G3XLQ / AF4K)" <bry@mnsinc.com>

Subject: Re: Amplitude Modulation

Steve - there are guys using PWM and PDM circuits on ham AM, much like that used by the commercial AM BC stations & also the HF SWBCers.

One guy sent me a nice article about it but I found it rather long and deep!

On 11 Apr 97 at 11:59, Steve Linscott spoke about Amplitude Modulation

and said:

> Has any one attempted to build an amateur version of the PWM
> technique that modern AM broadcast xmtrs use? A few years ago, one
> of our local stations (KTRH) replaced their '30's vintage RCA 50KW
> rig with a Harris 50KW unit. I wrote to the guy at Harris who
> designed it, and he sent copies of the paper he wrote on it.
>
> Basically, it puts a switch tube in series with the final tube, and
> runs with twice the normal plate voltage across the pair. The
> switch is pulse-width modulated: when it's full on, you have 200%
> voltage on the final, and when it is off, you have 0 volts. Hey,
> that sounds like 100% modulation! I believe it's called Class D
> modulation, and the efficiency is fantastic. The KTRH xmtr runs
> 55KW in, and 50KW out!
>
> I have thought about building a rig with a couple of 6146's in
> series, with 1000-1200 volts across the pair. The pulse-width
> modulator that drives the switch tube is sand-based, and would have
> to be hidden in a "black box", so the tubes wouldn't see it and get
> upset! :-)
>
> If anyone is interested, I'll dig up the paper on it, and maybe
> someone can scan it and put it in the archive.

73 de W5EGP

- Steve -

> *****
> ***** * Steve Linscott Divisional Consultant
> Natural Sciences * * Rice University 6100 South Main Street
> Houston, Texas 77005-1892 * * Phone: (713) 527-4985 FAX:
> (713) 527-6099 Email: linscot@rice.edu *
> *****
> *****

>
>
>
>
>
>

*** 73 from Radio AF4K / G3XLQ in Gaithersburg, MD USA *
** E-mail to: bry@mnsinc.com *
*** See the great ham radio resources at: *
** <http://www.mnsinc.com/bry/> *

Date: Sun, 13 Apr 1997 10:45:10 +0000

From: "Brian Carling (Radio G3XLQ / AF4K)" <bry@mnsinc.com>

Subject: How I got started

I really enjoyed Jeff Duntelman's description last week, about what
got him going with all of this!

Well, it all started with my Uncle Jack's TAPE RECORDER!

Actually it had started long before that with the family crystal set, the table-top radio with SW bands, reading Practic Wireless and Wireless World magazines etc.

As a small lad in the 1950s, I was surprised and delighted when after eating dinner at Uncle Jack's house, he invited us all to sit down and listen to what we had been saying BEFORE dinner. He had HIDDEN a microphone behind a chair in the living room and taped us all. Me, my brother, my parents and my grandmother! None of us had seen such a machine before, but within a couple of years, my brother and I both got one. His a 4-speed Philips, mine a BSR single speed cheaper one.

We had great fun with those, but I soon went on to make homemade intercoms, amplifiers, switchboxes etc. I even built a LIGHT BULB TESTER when I was about 11 years old and offered to test the neighbours' light bulbs for them (for a fee) - RIGHT!

My brother played in rock/pop bands professionally from a young age so I was always around amplifiers and other electrical things and helped set the things up for them, as well as helping to build and wire up/test their speaker cabinets etc.

It wasn't long before I learned about tubes and transistors and what fun things you could do with each of them. I once bought some CAPACITORS from a parts shop because I thought they would AMPLIFY a signal! Nah! They were the old tubular WAX coated paper variety as I remember they smelled funny. About 0.1 uF for the design to feed headphones off a speaker output of a radio I think. You live and learn eh?

Later, I found that a school chum lived a few streets over from a TV repair place and we used to sift through their garbage after school. Often there were complete "TELLYS" laying around by the dustbin, and we would take tools and open them up, extracting ALL of the resistors, tubes, caps, even transformers, and of course the speaker!

Later I used some of these parts to make intercoms and radios. What fun, and all FREE! Kids at school used to make things, like.... Well, I remember the electric shock thing. They got an old matchbox (the large wooden kind) and mounted a small transformer in it, had an external 4.5 volt bicycle lamp battery underneath, and two tinfoil contacts on top.

You persuaded some numbskull kid to put his fingers across the contacts and then you flipped a wire together and apart on the primary side of the transformer which of course induced a huge transient voltage in the secondary and zapped the mug!

Another gadget someone built, that impressed me, was a 1 kHz multivibrator that produced huge squarewaves using two transistors, and the harmonics from it would jam ANY radio receiver within a few feet. Great for annoying your school chums in the playground at lunchtime. These things were all of course, entirely clandestine. If the lads had been caught with such at school they would have been punished I am sure!

Later on, G3WUW used to bring a single transistor phase shift osc. and some headphones to school, and would teach me the morse code on

the steps during lunchtime. We later did some tube building together and I did most of the work to make a 6AG7 - 5B254M transmitter. We also fired up a WS19 set with 10 watts of awful sounding AM!!

You can read the rest of my story at:

<http://www.mnsinc.com/bry/mine/mytubes.txt>

Thanks for listening/reading and have a GREAT day glowbugging!

Bry

```
*****
*** 73 from Radio AF4K / G3XLQ in Gaithersburg, MD USA *
** E-mail to: bry@mnsinc.com *
*** See the great ham radio resources at: *
** http://www.mnsinc.com/bry/ *
*****
```

Date: Sun, 13 Apr 1997 10:45:09 +0000

From: "Brian Carling (Radio G3XLQ / AF4K)" <bry@mnsinc.com>

Subject: Re: Drake info

Steve did you ever find one??

On 1 Apr 97 at 23:28, Steve, N2MNN spoke about Drake info and said:

```
> Hello all,
>
> I think I am leaning towards the purchase of a Drake receiver and
> transmitter pair, and would like to obtain more info on the
> different models that were made. Does anyone know of the existence
> of a list on the Internet just for Drake owners?
>
> Thanks,
>
> Steve, N2MNN
> n2mnn@openix.com
>
>
```

```
*****
*** 73 from Radio AF4K / G3XLQ in Gaithersburg, MD USA *
** E-mail to: bry@mnsinc.com *
*** See the great ham radio resources at: *
** http://www.mnsinc.com/bry/ *
*****
```

Date: Sun, 13 Apr 1997 08:04:36 -0700

From: "Scott C. Gray" <scotgray@cwnet.com>

Subject: Re: Best way for AM KW?

Robert M. Bratcher Jr. wrote:

```
>
> Can AM be amplified? If so then whats the best way to get 1KW out from 100W
```

> input?
> I'd love to plate modulate a pair of 813's but the modulation transformer
> would be expensive and hard to find! Just how do I do get a full KW on 75 & 40?
>
> Robert M. Bratcher Jr.
> E-mail to:
> bratcher@worldnet.att.net
> Record collector, 8mm, super 8, 16 and 35mm Film collector.
> I like old radio's too.
> Collins, Hallicrafters, National & Hammurland are my Favorites!

I've heard several excellent sounding stations on 75 AM running fairly low powered exciters (Johnson Rangers aprox 35 watts output) into Collins 30L1's and SB-200's. These amps are run at only 150 Watts or so output to conserve the power supplys and tubes (at least I think.. 35 watts of drive to a pair of 872Bs/811A's, maybe thats all you can get!)

Scott
KD6CQ

Date: Sun, 13 Apr 97 10:11 CDT
From: Spencer Petri <spetri@e-tex.com>
Subject: Good Ole AM

Gang,

Nowadays the FCC has limited all amateur transmitters to 1500 Watts peak output. Since with AM you get a peak of four times the carrier, the limit on carrier output is now 375 watts.

In the days of a KW plate input, (Class C), you could probably get a carrier of 750 Watts which gave a peak of 3000 Watts. That's the reason stuff like the Johnson KW Matchbox was manufactured so hefty.

Anyway, it's easier and cheaper to build a legal limit AM radio these days.

73 de Pete WA5JCI

EM-21--6 Mtr -- WAS #490, WAC CW, DXCC/91 Countries, VUCC/618 Grids

2 Mtr -- 36 States -- VUCC/183 Grids

Date: Sun, 13 Apr 1997 11:04:54 +0100
From: BOB DUCKWORTH <bob@atl.org>
Subject: Re: Best way for AM KW?

Robert M. Bratcher Jr. wrote:

>
> Can AM be amplified? If so then whats the best way to get 1KW out from 100W
> input?
> I'd love to plate modulate a pair of 813's but the modulation transformer

> would be expensive and hard to find! Just how do I do get a full KW on 75 & 40?
>

What about running two x 813 rigged like push pull but
running PM on one with 30 to 180 degree phase shift relative
to the other? Run em class C.

Or did I stay up too late last night?

- -bob

Date: Sun, 13 Apr 1997 11:53:42 +0000
From: "Brian Carling (Radio G3XLQ / AF4K)" <bry@mnsinc.com>
Subject: Re: Best way for AM KW?

On 13 Apr 97 at 8:04, Scott C. Gray spoke about Re: Best way for AM
KW? and said:

> I've heard several excellent sounding stations on 75 AM running
> fairly low powered exciters (Johnson Rangers aprox 35 watts output)
> into Collins 30L1's and SB-200's. These amps are run at only 150
> Watts or so output to conserve the power supplys and tubes (at least
> I think.. 35 watts of drive to a pair of 872Bs/811A's, maybe thats
> all you can get!)

Yes, and that can be done. I ran the Ranger into a pair of 4-400As
and drove them to about 200 watts carrier power. Runs fairly
decently, BUT it is NEVER going to sound as good as a real
plate-modulated rig of the same power level IMHO!

Bry

*** 73 from Radio AF4K / G3XLQ in Gaithersburg, MD USA *
** E-mail to: bry@mnsinc.com *
*** See the great ham radio resources at: *
** <http://www.mnsinc.com/bry/> *

Date: Sun, 13 Apr 1997 11:53:42 +0000
From: "Brian Carling (Radio G3XLQ / AF4K)" <bry@mnsinc.com>
Subject: Re: Good Ole AM

On 13 Apr 97 at 10:11, Spencer Petri spoke about Good Ole AM and
said:

> Gang,
>
> Nowadays the FCC has limited all amateur transmitters to 1500 Watts
> peak output. Since with AM you get a peak of four times the carrier,
> the limit on carrier output is now 375 watts.
>
> In the days of a KW plate input, (Class C), you could probably get a
> carrier of 750 Watts which gave a peak of 3000 Watts. That's the

> reason stuff like the Johnson KW Matchbox was manufactured so hefty.
>
> Anyway, it's easier and cheaper to build a legal limit AM radio
> these days.

But likely a lot of folks are running more than the 375 watts.
Just like in England. They are limited to 400 watts p.e.p. on
SSB, but look how many DXers over there are running Drake L4B
amplifiers. Do you honestly think they limit themselves to 400w pep
with one of those? Likewise I expect a lot of serious AM operators
still run a KW. The rule change was as stupid decision on the part of
the FCC anyway. With so few folks running AM, I seriously doubt that
it is an issue anyway.

Just my 2 cents - take 'em for what they are worth. If I had the real
estate, money and the time, I would build a REAL QRO AM station for 160m!

Bry

Date: Sun, 13 Apr 1997 14:52:04 -0500
From: Kevin Pease <KPease@worldnet.att.net>
Subject: Re: Best way for AM KW?

Brian Carling (Radio G3XLQ / AF4K) wrote:

>
> For one thing you are only allowed 750W out on AM.
>
Not True. You are allowed 1500 watts pep output on any mode. On am that
is about 375 watts of carrier output or around 500 watts DC input.

> Then also, if you want 750W out, you need an amplifier that is
> capable of delivering considerably more than that, and throttle back
> the carrier level to the appropriate amount.

>
I have run my Ranger into an L4 at 250 watts output with Audio that is
every bit as good as barefoot. Infact I have heard some low level AM run
through Linear amplifiers that sounds every bit as good if not better
than the best plate modulated rigs.

Kevin Pease

Date: Sun, 13 Apr 1997 22:14:09 -0500 (EST)
From: "Roberta J. Barmore" <rbarmore@indy.net>
Subject: Re: Best way for AM KW?

On Sun, 13 Apr 1997, BOB DUCKWORTH wrote:

> What about running two x 813 rigged like push pull but
> running PM on one with 30 to 180 degree phase shift relative
> to the other? Run em class C.

Congratulations, sir! You have just (re)invented the RCA Ampliphase
AM transmitter! <grin>

The theory is sound and when it works, it works pretty well. But even for fixed-frequency use between 550 and 1600kc, the system was *very* difficult to get working and no picnic to keep working.

However, it's a knob-twiddler's delight, and in this context that may be a plus! And a fairly low-power version (compared to RCAs 50kW and up monsters) might be better-behaved.

73,
--Bobbi

End of glowbugs V1 #6

%%%% GlowBugs %%%% GlowBugs %%%% GlowBugs %%%% GlowBugs %%%%

[AB4EL Ham Radio Homepage @ SunSITE](#)

Created by **Steve Modena, AB4EL**
Comments and suggestions to **modena@SunSITE.unc.edu**
